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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,628	10/22/2001	Avinash Dalmia	03141-P0381A	5048
24126	7590	12/04/2003	EXAMINER	
ST. ONGE STEWARD JOHNSTON & REENS, LLC			LEADER, WILLIAM T	
986 BEDFORD STREET			ART UNIT	
STAMFORD, CT 06905-5619			PAPER NUMBER	

1742

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/029,628

Applicant(s)

DALMIA ET AL.

Examiner

William T. Leader

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Independent claims 1, 13 and 23 recite a substrate, a first electrode deposited on said substrate, and a second electrode deposited on said substrate. Paragraph 0038 of the specification discusses thin film electrodes while paragraph 0039 discusses thick film electrodes. In the context of the specification and figures 1 and 2, it appears that the electrodes are formed on a substrate by a deposition, i.e. coating, process. The term "deposited" in the claims, which is taken to describe the relationship between the substrate and electrodes in the recited apparatus, appears to be consistent with this manner of forming the electrodes. However, paragraph 0051 states that FIG. 3 shows an alternative embodiment where the electrodes are in a vertical fashion, whereby a plurality of members 46 may be placed on top of a plurality of extensions 48 in an alternating manner. It is not clear if applicant intends the claims to include the embodiment shown in FIG.3. If so, it is not

apparent in what manner the electrodes shown in figure 3 are "deposited" on a common substrate as recited in the claims.

4. The use of the trademark "Nafion" in claims 4, 22 and 26 renders these claims indefinite. Similarly, the use of "Teflon" in claims 15 and 29 renders these claims indefinite. See MPEP 2173.05(u).

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 23 and 25-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joshi et al (5,593,552) in view of Murphy et al (5,972,196).

4. The Joshi et al patent is directed a device for the electrochemical generation of gas. The device includes base 1 which may be considered to be a substrate. Anode electrode 7 and cathode electrode 8 are positioned on element 1. Electrolytic material 4 is in contact with the anode and cathode electrodes. See figure 1 and column 8, line 55 to column 98. Claim 23 differs from the gas generator of Joshi et al by reciting a coating deposited on a surface of the electrolyte for regulating the amount of gas generated

5. The Murphy et al patent is directed to the electrochemical production of a gas such as ozone using the gas generator depicted in figure 1. The generator includes a solid polymer electrolyte 12. Bonded to one side of the solid electrolyte 12 is an electronically conducting, semi-hydrophobic, oxygen reduction electrocatalyst layer 14. This layer may be made of Teflon-bonded platinum black. See column 13, line 63 to column 14, line 15. The catalytic nature of the layer would have contributed to the regulation of the amount of gas generated.

6. The prior art of record is indicative of the level of skill of one of ordinary skill in the art. It would have been obvious at the time the invention was made to have included a catalytic layer on the solid electrolyte of Joshi et al as taught by Murphy et al to have contributed to the regulation of the amount of gas generated.

7. With respect to claims 25 and 26, both Joshi et al and Murphy et al disclose the use of a solid state electrolytic material. Joshi et al disclose that the solid polymer electrolyte may be "Nation"® which appears to be a misspelling of Nafion. Murphy et al disclose that Nafion is a suitable material for the solid polymer electrolyte (column 9, lines 38-46).

8. With respect to claim 27, Murphy et al show in figure 6 is reservoir containing the water to be processed. This water contacts the solid electrolyte and would wet the solid electrolyte. It would have been obvious to have included a reservoir with material to wet the solid electrolyte in the generator of Joshi et al as shown by Murphy et al.

9. With respect to claims 28, 29, 30 and 31, as noted above Murphy et al disclose that the coating on the solid electrolyte contains Teflon. The coating would porous since gas may diffuse through it. With respect to claim 32, both Joshi et al and Murphy et al provide an inlet and outlet. See the figures.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 703-308-2530. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 703-308-1146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

WL  
William Leader  
November 24, 2003

ROY KING   
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700